

REMARKS

Entrance of this amendment, and reconsideration and allowance of the application as amended are respectfully requested in view of the remarks below. Claims 1-25 are pending in this case.

Withdrawal of the Finality of the Second Office Action

Initially, Applicants wish to thank the Examiner for his withdrawal of the finality of the second Office Action in light of applicants' response mailed on June 5, 2003.

Information Disclosure Citation

As previously mentioned, an Information Disclosure Citation listing three references along with copies thereof were submitted concurrently with the filing of the application. In addition, a Supplemental Information Disclosure Statement and Citation listing twenty-two references along with copies thereof were submitted on January 4, 2002.

It is applicants' understanding that all of these references have indeed been considered in connection with the above-identified application. If this understanding is not correct, applicants kindly request return of initialed copies of the citations listing those references considered.

35 U.S.C. §103(a) Rejection of Claims 1-13 and 18-22

In the Office Action, claims 1-13 and 18-22 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Fewel (newly cited U.S. Patent No. 6,377,171) in view of Cornick (newly cited U.S. Patent No. 6,261,446). Applicants respectfully, but most strenuously, traverse this rejection for the following reasons.

Initially, one aspect of applicants' invention is directed to systems and methods for remotely monitoring for repair a plurality of grinder pump stations. Grinder pump stations typically include a grinder mechanism for cutting or grinding solids or semisolid matter, and a pump for transferring the resulting ground particulate effluent through small diameter pipes without clogging to, for example, a sewage treatment facility.

In this aspect of applicants' invention, maintenance warnings are transmitted from the grinder pump stations to a central computing unit, or data regarding the operation of the grinder pump stations is transmitted to the central computing unit and used in determining maintenance warnings. For example, by comparing changes in the operating parameters over time and/or comparing the operating parameter against predetermined criteria, an alarm condition requiring repair and/or warning of potential service requirements can be addressed in advance of failure. This technique provides faster response time for repair and reduces maintenance costs by allowing repair prior to the occurrence of increased or major problems or a breakdown of a grinder pump station or components thereof.

Fewel discloses a monitoring system for monitoring the condition of a filter used in filtering a gas or liquid. Using various sensors, the permeability of the filter is monitored on a continuous basis. A significant increase in permeability, decrease in permeability or rate of change of permeability can lead to an indication of filter failure, such as rupture, leakage, loading and unloading. The system can be monitored by a computer and monitored from a remote location through phone lines and Internet computer systems.

As stated in the Office Action, Fewel does not disclose a system for monitoring a plurality of grinder pump stations. In addition, applicants respectfully disagree with the position taken in the Office action that it is obvious that grinder pump stations are forms of filter stations. In particular, the system disclosed in Fewel is a passive system that includes a container or filter vessel having a filter therein. Furthermore, the system disclosed in Fewel includes neither a grinder mechanism nor a pump.

Cornick discloses a preloader system for improving the separation of sewage containing wastewater. A first chamber includes a grinder pump for grinding solids that descend toward the bottom of the first chamber.

Applicants also respectfully disagree with the position taken in the Office Action that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the grinder pump stations (10) of Cornick in place of or in addition to the filter vessel (14) of Fewel, since the grinder pumps stations would have constituted filter stations that would have been readily monitored by the system of Fewel, thereby allowing monitoring of the proper operation of the pumps from a remote station."

The prior art must suggest the desirability of the claimed invention. There are three sources for a motivation to combine references: the nature of the problem to be solved, the teaching of the prior art, or the knowledge of persons of ordinary skill in the art. See, MPEP §2143.01.

First, applicants' invention is directed to the problem of remotely monitoring for repair a plurality of grinder pump stations by monitoring data regarding the grinder pump stations. Fewel discloses a filtering system and monitoring the condition of a filter by monitoring the permeability of the filter. Cornick is directed to improving the separation of sewage containing wastewater. Both Fewel and Cornick fail to appreciate the nature of the problem to be solved for monitoring for repair a plurality of grinder pump stations.

Second, the system disclosed in Fewel is a passive system having a filter, and does not include a grinder pump having a grinding mechanism and a pump. Cornick while disclosing a grinder pump, teaches solving the problem of burnout of the motors of the grinder pump by automatically reversing the pumping and grinding action if materials get lodged in the grinder pump and inhibit the grinding process. See, Cornick at column 5, lines 57-67. Neither Fewel nor Cornick teach remotely monitoring for

repair a plurality of grinder pump stations by monitoring data regarding the grinder pump stations.

Third, it would not be obvious to one of ordinary skill in the art at the time the invention was made to substitute the grinder pumps of Cornick in place of or in addition to the filter vessel of Fewel as suggested in the Office Action. In particular, there is no need for including a grinder pump in connection with the filter of Fewel. Specifically, where a gas is filtered, adding a grinder pump would not provide any benefit. For example, the grinder pump would likely fail to pump the gas. Where a fluid is filtered, adding a grinder pump would also not provide any benefit since the grinder pump would likely not reduce the size of the relatively small sized particles which are filtered. Should the grinder pump operate to further reduce the size of the relatively small sized particles, then, the possibility of reduced sized particles passing through the filter would render the filter system of Fewel inoperable for its intended use in removing particulates from the gas or fluid stream. In the other situation, if the filter is replaced with a grinder pump, incorporation of a grinder pump would allow the otherwise trapped particles to pass through, thereby rendering the filter system of Fewel inoperable for its intended use.

In this case, there is no source of a suggestion or motivation to combine Fewel and Cornick either in the nature of the problem to be solved, the teaching of the prior art, or the knowledge of persons of ordinary skill in the art.

Accordingly, the combination of Fewel and Cornick fails to disclose teach or suggest monitoring for repair a plurality of grinder pump stations, obtaining data regarding the plurality of grinder pump stations, and wherein the data comprises data regarding maintenance warnings for the plurality of grinder pump stations, and/or data regarding the operation of the plurality of grinder pump stations and determining, at the central computing unit maintenance warnings for the plurality of grinder pump stations as recited in independent claim 1.

Dependent claims 2-6, 22, and new claim 23 are believed allowable for the same reasons noted above in connection with independent claim 1 from which they directly or ultimately depend, as well as for their own additional features.

With reference to independent claim 7, another aspect of applicants' invention is for an alarm panel for a grinder pump station having an override feature for transmitting data regarding the grinder pump station to a central computing unit. As noted above, Fewel does not disclose, teach or suggest monitoring a grinder pump. Cornick simply discloses a float system and alarm for monitoring the level of sewage in the second chamber. With regard to claim 7, the Examiner has also taken "Official Notice that in the data transmission art, use of modems which allow overriding of data transmission in order to allow telephone usage is well known."

As the Examiner is aware, *In Re Zurko* [59 U.S.P.Q.2d 1693 (Fed. Cir. 2001)] established the "substantial evidence" standard which means that deficiencies in the references cited by the Examiner cannot be remedied by general conclusions about basic knowledge and common sense in the art. With respect to core factual findings in a determination of patentability the Examiner cannot reach conclusions based on his own understanding or experience, but must instead point to concrete evidence to support his findings. Absent such concrete evidence, the Examiner has not satisfied his burden of establishing a *prima facie* case of obviousness.

More importantly, the combination of Fewel, Cornick, and the Official Notice fails to disclose, teach or suggest, the combination of "an override feature" along with the transfer of "data regarding the grinder pump station." Accordingly, it is respectfully submitted that the combination of Fewel, Cornick, and the Official Notice fails to disclose, teach or suggest "at least one of the processor and the modem board having "an override to allow use of a telephone by a homeowner over use of a telephone line by said modem board during transmission of the data regarding the grinder pump station from said processor to a central computing unit" as recited in claims 7, and claims 8-9 and 24 depending therefrom.

With reference to independent claim 10, another aspect of applicants' invention is for a "modular" alarm panel for a grinder pump station. As noted above, Fewel does not disclose, teach or suggest monitoring a grinder pump. Cornick simply discloses a float system and alarm for monitoring the level of sewage in the second chamber. More importantly, neither Fewel nor Cornick disclose, teach or suggest a "modular alarm panel" wherein the "processor is connectable to a power loss high level alarm module, a modem board, a pressure transducer, and a generator receptacle." In fact, neither Fewel nor Cornick disclose a modular system and/or as modular system having a generator receptacle. Accordingly, it is respectfully submitted that the combination of Fewel and Cornick fails to disclose teach or suggest and a modular alarm panel as recited in amended claim 10, and claims 11-13 and 25 depending therefrom.

With reference to independent claim 18, another aspect of applicants' invention is directed to a method for transmitting information over a high voltage alternating current line. With regard to claim 18, the Examiner has taken "Official Notice that in the signal transmission art, use of high voltage AC current lines for transmitting and receiving data is well known in the art."

Again, *In Re Zurko* [59 U.S.P.Q.2d 1693 (Fed. Cir. 2001)] established the "substantial evidence" standard which means that deficiencies in the references cited by the Examiner cannot be remedied by general conclusions about basic knowledge and common sense in the art. With respect to core factual findings in a determination of patentability the Examiner cannot reach conclusions based on his own understanding or experience, but must instead point to concrete evidence to support his findings. Absent such concrete evidence, the Examiner has not satisfied his burden of establishing a *prima facie* case of obviousness.

Moreover, the Office Notice relied on in the Office Action fails to address the specific claimed manner in which information is transmitted over a high voltage alternating current line, e.g., modulating the voltage to generate a series of pulses corresponding to the information. For the reasons above, it is respectfully submitted

that claims 18-21 and 25 would not have been rendered unpatentable over the combination of Fewel, Cornick, and the Official Notice.

35 U.S.C. §103(a) Rejection of Claims 14-17

In the Office Action, claims 14-17 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Cornick (newly cited U.S. Patent No. 6,261,446). Applicants respectfully, but most strenuously, traverse this rejection for the following reasons.

Another aspect of applicants' invention is directed to recharging a sensing tube for use in measuring a level of a fluid in a receptacle which includes recharging a sensing bell. For example, a grinder pump may have one or more sensing tubes to sense pressure variations by measuring increases in the level of sewage collected in grinder pump station. A processor or a separate pressure transducer printed circuit board connectable to the processor may also allow the pump to remain on so that the bottom of the sensing tube is exposed to atmospheric pressure. This may be preformed, e.g., every 128 cycles, to allow recharging the air column inside the sensing tubes. By recharging the air column in the sensing tubes, air temperature or thermal factors which can affect the accuracy of the reading of the level of the fluid in the tank may be reduced or factored out.

The applied reference of Cornick discloses a sensor system 50 which includes a first probe 52, second probe 54 and third probe 56, each of which comprises a length of rod suspended from the sensor system 50 down into the first chamber 12. The probes measure the electric conductivity of the matter within the proximity of the tip of each probe. See, Cornick at column 10, lines 49-60.

Cornick which discloses a metal probe and measurement using electric conductivity, fails to disclose, teach or suggest a method for recharging a sensing tube having an air column. Moreover, a metal probe is not susceptible to the problems

arising with use of a sensing tube. Thus, it is respectfully submitted that Cornick would not have rendered applicants' invention obvious as recited in claim 14 and claims 15-17 depending therefrom for a "method for recharging a sensing tube for use in measuring a level of a fluid in a receptacle" which includes "permitting the level of the fluid in the receptacle to go below the bottom of the sensing tube."

Official Fees

In this response, 3 new dependent claims have been added. Accordingly, a check in the amount of \$54 is enclosed herewith for the official fee associated with the 3 additional dependent claims.

CONCLUSION

It is believed that the application is in condition for allowance, and such action is respectfully requested.

If a telephone conference would be of assistance in advancing prosecution of the subject application, applicants' undersigned attorney invites the Examiner to telephone him at the number provided.

Respectfully submitted,



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